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GEOLOGIC APPLICATION OF THERMAL INERTIA IMAGING

USING HCMM DATA

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16. Abstract A successful day/night set of aircraft overflights and a complete set of ground-truth data were collected during the January-March 1978 quarter of the JPL/HCMM Investigation. Analysis is pending receipt of data while studies using previously obtained data and the JPL Thermal Model are continuing.			
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Introduction

During the January-March 1978 period in the JPL/HCMM Investigation into the feasibility of using thermal inertia inferred from remotely sensed temperature data to complement Landsat reflectivity data for reconnaissance geologic mapping and mineral exploration, five field trips to the Death Valley test site were undertaken. During the last one, a complete and successful set of aircraft and ground-truth data was collected. Analysis is pending receipt of the aircraft data. Studies using previously obtained data and the JPL Thermal Model are continuing.

Problems

Four field trips to the Death Valley, California test site were undertaken in this period before a successful set of data was obtained. Problems encountered during these trips included malfunctioning aircraft sensors on the NASA/Ames U-2 and/or adverse weather conditions.

Accomplishments

A complete and successful set of day/night aircraft overflights and a complete set of ground-truth data were obtained during the week of 13 March 1978. The data from these flights has not yet been received.

Significant Results

Using results from previously obtained aircraft data and the JPL Thermal Model developed under the SRT Program, a variety of problems related to the use of HCMM data, including topographic effects, partial cloudiness and meteorological effects, were studied.

Presentations/Publications

Participation by Dr. Anne B. Kahle in

1. HET meeting in Phoenix, Arizona, 25, 26 January 1978.
2. HCMM Science Briefing to NASA Headquarters (Drs. Calio, Rasool and Hinnars), 29 March 1978.

Program for Next Reporting Interval

Aircraft data will be processed as received and initial satellite data will be examined when available. Analysis of previously obtained aircraft and ground-truth data will continue. Field work will be planned after satellite orbits are established.

Recommendations

None

Funds Expended

Total expenditures to date: \$1,135.00.

Much of the work reported on here was partially supported by HCMM SRT funds.

Data Utility

No data has been received as of this date.

conclusions

None